COMPLETE LISTING OF CLAIMS

1 (Original) A monoclonal or polyclonal antibody having high affinity for a peptide selected from the group consisting of: Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

2 (Original) The antibody of claim 1, wherein said antibody is a monoclonal antibody.

3 (Original) The antibody of claim 1, wherein said antibody has high affinity for the peptide Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1).

4 (Original) The antibody of claim 2, wherein said antibody has high affinity for the peptide Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1).

5 (Original) The antibody of claim 1, wherein said antibody has high affinity for the peptide Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4).

6 (Original) The antibody of claim 2, wherein said antibody has high affinity for the peptide Phe-Xaa-Gly-Leu-Met-NH_2 , where Xaa is variant Phe or Val (SEQ ID NO:4).

7 (Original) The antibody of claim 1, wherein said antibody has high affinity for the peptide Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2)).

8 (Original) The antibody of claim 2, wherein said antibody has high affinity for the peptide Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

9 (Original) The antibody of claim 1, wherein said antibody is cross-reactive with each of peptides Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2 , where Xaa is variant Phe or Val (SEQ ID NO4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

10 (Original) The antibody of claim 2, wherein said antibody is cross-reactive with each of peptides Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2 , where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

11 (Currently amended) A method for detecting magnesium binding defect comprising:

a) measuring in body fluids other than blood plasma ~~blood serum~~ the level of peptide having an amino acid sequence selected from the group consisting of: Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2); and

b) comparing said level to a standard,

wherein a reduced level of said peptide is indicative of said magnesium binding defect.

12 (Original) The method of claim 11, wherein said level of peptide is measured by using an antibody to peptide having an amino acid sequence selected from the group consisting of: Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

13 (Original) The method of claim 12, wherein the antibody is monoclonal.

14 (Original) The method of claim 13, wherein the monoclonal antibody cross reacts with each of said peptides

15 (Original) The method of claim 12, wherein the antibody is employed in an immunoenzyme assay.

16 (Original) The method of claim 15, wherein the immunoenzyme assay is enzyme-linked immunosorbent assay to quantitate the concentration of said peptide in blood serum.

17 (Original) The method of claim 12, wherein the antibody is polyclonal.

18 (Cancelled)

19 (Cancelled)

20 (Cancelled)

21 (New) A method for monitoring progress in treatment of the magnesium binding defect in an individual, comprising:

a) measuring the level of peptide in a sample of body fluid of said individual, said peptide having an amino acid sequence selected from the group consisting of: Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2); and

b) comparing said level of peptide to the level of the peptide after treatment, whereby a significant increase in the level of said peptide is indicative of progress of treatment of said individual.

22 (New) The method of claim 21, wherein said level of peptide is measured by using an antibody to peptide having an amino acid sequence selected from the group consisting of: Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

23 (New) The method of claim 22, wherein the antibody is monoclonal.